

(12) **UK Patent Application** (19) **GB** (11) **2 358 585** (13) **A**

(43) Date of A Publication 01.08.2001

(21) Application No **0027657.6**

(22) Date of Filing **13.11.2000**

(30) Priority Data

(31) **9926699** (32) **12.11.1999** (33) **GB**

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(51) INT CL<sup>7</sup>

**A01N 25/32 25/00 // ( A01N 25/32 39:00 53:08 )**  
**( A01N 25/00 39:00 53:08 )**

(52) UK CL (Edition S )

**A5E ET E311 E326**  
**U1S S1290**

(56) Documents Cited

**FR 002044456 A** **US 5298247 A** **US 4461758 A**  
**US 4438090 A** **US 3811413 A**

(58) Field of Search

**INT CL<sup>7</sup> A01N 53/00**  
**Online: EPODOC, JAPIO, WPI**

(54) Abstract Title

**Pesticidal composition also comprising a substance which tastes unpleasant to the animal to which the composition is to be applied**

(57) A pesticidal composition for application to an animal (particularly a cat, a dog, a hamster or a guinea pig) comprises a pesticide and a substance which tastes unpleasant to the animal to which it is applied. The pesticidal composition may be provided as a liquid or spray product and may be incorporated into a collar device.

The pesticide is preferably an insecticide (eg a pyrethroid, such as permethrin). The unpleasant-tasting substance may have a bitter taste and is preferably denatonium benzoate.

The composition may be used in the treatment of fleas.

The unpleasant-tasting substance deters an animal from grooming itself, through which process the pesticide would be ingested and cause harm if the animal's metabolism is unable to cope with the pesticide.

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## PESTICIDAL COMPOSITION

### FIELD OF THE INVENTION

This invention relates to a pesticidal composition and, in particular to a pesticidal  
5 composition for use on cats and dogs.

### BACKGROUND OF THE INVENTION

Cats and dogs are prone to infestations by various insects such as fleas: small insects  
which jump on the animal and feed on its blood. Although a mild dose of the fleas is  
10 often regarded as trivial, left unchecked it may develop into a severe infestation  
causing the animal severe discomfort and pain resulting in a shabby, unkempt  
appearance.

Conventional pesticidal products often incorporate the chemical permethrin which is  
15 an effective anti-flea agent specifically targeted at dogs and puppies more than two  
weeks old. The product is typically produced in drop form and applied to the neck  
region of the animal from where it disperses throughout the coat.

The problem with producing a permethrin based pesticide arises in the occasional  
20 mis-application of the product wherein owners mistakenly conclude that a product  
which can be used for a young puppy is suitable for application to a cat. Cats will  
inevitably ingest high quantities of the product through the process of self grooming  
and this can result in death. The cause of the problem is a direct result of a  
physiological difference between the cat and dog wherein the cat lacks a specific  
25 enzyme which is needed to metabolize the permethrin based product.

Although dogs do possess the necessary enzyme, there is the associated problem that  
a suckling puppy of less than two weeks old may ingest permethrin which has been  
applied to the coat of its mother. The physiology of the puppy is such that its  
30 metabolism is also unable to cope which results in death of the animal. Similarly a

cat may ingest considerably quantities of the permethrin based product through playing with or cross-grooming a dog to which the product has been applied.

5 There is need for a pesticidal composition which is an effective anti-flea agent and which can be safely applied to a range of different host organisms, irrespective of physiological differences which may occur between them.

#### STATEMENTS OF THE INVENTION

10 According to the present invention there is provided a pesticidal composition for application to an animal comprising a pesticide and a substance which tastes unpleasant to the animal to which it is applied.

15 Preferably the pesticide is an insecticide. Preferably the insecticide is selected from the pyrethroid family and is preferably permethrin based. More preferably the insecticide is permethrin.

20 Preferably the substance which tastes unpleasant to the animal to which it is applied has a bitter taste. More preferably the substance is an ammonium salt and is most preferably denatonium benzoate.

25 Preferably the concentration of denatonium benzoate is such that the animal is discouraged from grooming only for a limited time period during the working efficacy of the product. After this time period the animal can groom itself as normal and remains unaffected by the concentration of permethrin which has now reached a safe level.

30 Preferably the animal is discouraged from grooming for not more than a three day period and the working efficacy of the product is not more than eight weeks. More preferably the animal is discouraged from grooming for a one day period and the working efficacy of the product is four weeks.

Preferably the pesticidal composition is produced as a liquid and is applied to the neck area of the animal in either drop or spray form. In an alternative embodiment of the invention, the denatonium benzoate is incorporated into a collar which is placed around the neck of the animal.

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The present invention also provides for the use of a pesticidal composition for application to an animal comprising a pesticide and a substance which tastes unpleasant to the animal to which it is applied for the treatment of fleas.

- 10 Preferably the animal to which the pesticidal composition is applied is feline although the invention provides for the use of the pesticidal composition in a variety of organisms including dogs, hamsters and guinea pigs.

The invention is particularly surprising because actively seeking to discourage self-grooming of an animal is not considered as advantageous and would discourage a person skilled in the relevant technical field from adding denatonium benzoate to an animal composition.

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## CLAIMS

1. A pesticidal composition for application to an animal comprising a pesticide and a substance which tastes unpleasant to the animal to which it is applied.  
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2. A pesticidal composition according to claim 1 wherein the pesticide is an insecticide.
3. A pesticidal composition according to claim 2 wherein the insecticide is selected from the pyethroid family.  
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4. A pesticidal composition according to claim 3 wherein the insecticide is permethrin based.
- 15 5. A pesticidal composition according to claim 4 wherein the insecticide is permethrin.
6. A pesticidal composition according to any preceding claim wherein the substance which tastes unpleasant to the animal to which it is applied has a bitter taste.  
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7. A pesticidal composition according to claim 6 wherein the substance is an ammonium salt.
8. A pesticidal composition according to claim 7 wherein the substance is denatonium benzoate.  
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9. A pesticidal composition according to claim 8 wherein the concentration of denatonium benzoate is such that the animal is discouraged from grooming only for a limited time period during the working efficacy of the product.  
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10. A pesticidal composition according to claim 9 wherein the concentration of denatonium benzoate is such that the animal is discouraged from grooming for not more than a three day period and the working efficacy of the product is not more than eight weeks.
- 5
11. A pesticidal composition according to claim 10 wherein the animal is discouraged from grooming for a one day period and the working efficacy of the product is four weeks.
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12. A pesticidal composition according to any preceding claim wherein the pesticide is produced as a liquid.
13. A pesticidal composition according to claim 12 wherein the liquid and is applied to the animal in either drop or spray form.
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14. A pesticidal composition according to claim 13 wherein the liquid is applied to the neck area of the animal.
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15. A pesticidal composition according to any preceding claim wherein the pesticidal composition is incorporated into a collar which is placed around the neck of the animal.
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16. A pesticidal composition according to any preceding claim wherein the animal to which the composition is applied is feline.
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17. A pesticidal composition according to any of claims 1 to 15 for use with dogs, hamsters and guinea pigs.
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18. Use of a pesticidal composition of any preceding claim for application to an animal, said pesticidal composition comprising a pesticide and a substance which tastes unpleasant to the animal to which it is applied, for the treatment of fleas.

19. A liquid or spray product which comprises the pesticidal composition of the present invention.

5 20. A collar device which incorporates the pesticidal composition of the present invention.

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INVESTOR IN PEOPLE

Application No: GB 0027657.6  
Claims searched: 1-20

Examiner: Stephen Quick  
Date of search: 24 May 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.S):

Int CI (Ed.7): A01N 53/00

Other: Online: EPODOC, JAPIO, WPI

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	US 5298247 A (GODREJ SOAPS), see whole document, especially column 1 (lines 5-7, 27-31 & 65-68) and column 9 (lines 43-46)	1-17 & 19
X	US 4461758 A (ALAN D BRITE), see whole document, especially column 2 lines 8-14	1-17 & 19
X	US 4438090 A (ALAN D BRITE), see whole document, especially column 2 lines 36-41	1-17 & 19
X	US 3811413 A (A H SCHERPENBORG), see whole document, especially column 1 (lines 29-34) and column 2 (lines 36-45)	1-18 & 20
X	FR 2044456 A (ROBERT ARIES) & WPI Abstract Accession No 1971-30911S [18], see especially page 2 (lines 20-22) and WPI abstract.	1-17 & 19

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.